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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,654	06/28/2001	Cornelis Antonie Tjeenk Willink	TH1457 US	7043
7590	10/27/2003		EXAMINER	
Richard F Lemuth Shell Oil Company PO Box 2463 Houston, TX 77252-2463			NEUDER, WILLIAM P	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,654

Applicant(s)

TJEENK WILLINK, CORNELIS
ANTONIE

Examiner

William P Neuder

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 3672

DETAILED ACTION

Claim Objections

Claim 13 is objected to because of the following informalities: Claim 13, beginning in line 4, states, "is a substantial form by substantially straight tubular". It is believed this should be --is substantially formed by a substantially straight tubular--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 7-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Betting et al.

Betting et al discloses a method and apparatus for removing condensables from a gas stream. The stream is induced to flow at supersonic velocity through an inertia separator 10. The supersonic separator causes the stream to cool to below a temperature at which condensables will condense, forming separate droplets. The droplets are separated from the gas stream. The gas from which the condensables have been removed is collected. The gas stream can come from a wellhead. As to claim 2, a swirling motion is imparted to the gas stream. As to claim 3, the swirling motion is imparted by a wing 60. As to claim 4, a shock wave is created in the stream upstream of the collection zone. As to claim 5, the shock wave is created by a diffuser 30. As to claim 7, section 24 is an acceleration section. Wing 60 is a swirl imparting

Art Unit: 3672

section. The gas stream containing a reduced content of condensables is removed through outlet 19. The condensables are collected through outlet 18. As to claim 8, diffuser 30 is downstream of the wing 60. As to claim 8, the shock wave is upstream of the collection zone. As to claim 10, the acceleration section is a Laval-type inlet and the smallest cross-sectional area of the diffuser is larger than the smallest cross-sectional area of the accelerator. As to claim 11, the device can be connected downstream from a wellhead. As to claim 12, the wellhead can be subsea. As to claim 13, the collection zone debouches into a central tubular outlet and an annular first tubular outlet.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Esso Production (G.B. 1103130).

Esso discloses a method of removing condensables from a gas stream. The gas stream is induced to flow at supersonic velocity. The gas stream cools and condensables begin to condense. The condensed droplets are separated from the gas stream. The gas from which the condensables have been removed is collected. The gas stream can come from a wellhead. As to claim 2, a swirling motion is imparted to the gas stream. As to claim 7, an acceleration section 9, a swirl imparting section (the bend provided in the separating section 31), and a collection zone 55 is provided. As to claim 7, the device is downstream of the wellhead.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3672

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Esso Production.

That the wellhead be a subsea wellhead would have been considered an obvious design choice since all types of well equipment used on an above ground wellhead is also used on a subsea wellhead.

Art Unit: 3672

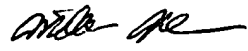
Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Betting et al in view of Colle.

Betting et al discloses all of the claimed features except for providing a gas hydrate inhibitor to the gas stream leaving the separator. Colle teaches that it is common to provide hydrate inhibitors in a gas stream to reduce the formation of undesirable hydrates in a flowing gas stream. It would have been obvious to provide Betting et al with a hydrate inhibitor as taught by Colle in view of Colle's teaching that the use of a hydrate inhibitor reduces the formation of unwanted hydrates in a flowing gas stream.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P Neuder whose telephone number is 703-308-2150. The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J Bagnell can be reached on 703-308-2151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


William P Neuder
Primary Examiner
Art Unit 3672

W.P.N.